

# SEQUENCE LISTING

<110> ChondroGene  
Liew, Choong-Chin

<120> Method for the Detection of Gene Transcripts in Blood and Uses  
Thereof

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<150> US

<151> 2000-01-04

<150> US 60/115,125

<151> 1999-01-06

<160> 112

<170> PatentIn version 3.2

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tatcaaatta taaaccacc cacattactt aaaattttt acatttcca ataaaaaacc 120

45 caaataaaca aaaacttcca atctccattt aaaat 155

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 25 gaaaaanttt tccggggggc ccaccggga agggntnccg gggaagg 168  
  
  
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 cccacatttc cattttaat atatacttg ctttacaat attataatat gttttaa 180  
  
 40 atgttcacag aagcacctgg tctgtgaatg gcatgccagc attaaaaaa ataagcattc 240  
  
 tttgaatata tatttagttt ttaattgtg taggaaatc aaagccagag ggagtagaaa 300  
  
 caaaattgt gattttctaa atacttctg gctgcaggga agaaaccacg tcccaggcga 360  
 45 agtctacct aattgatga taaaattaca tggaagggat tctgttggc ataggacct 420

accaagatgg tcaacaga

438

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15 aaagggggaa ggcccccaa accggggggg gggnaaaaag gtgggtttcc cccttttcc 180  
  
 aattcccaa accaatttc aaaaggnaaa ccaacnttc ccaaatggg aaagg 235

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45 caaattgggg ggnaaaccaa atttaagggg ggaagggggg gnccccccg ggaaaggccc 180



aaggggggaa aatttttccg ggggtgggtn gggggaacca atttaagggg ggggcccccg 240

gggggggtcc ccttgggcn tttttcttt tgggtnaaaa aaaaaaaccc cttg 294

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15

ctgtacttga actctaaaac tgttgagaaa actcagtgt taccccaaca gattcatttc 180

aaatagctgt aaaaggtatg ttactccag aagaccagag ttgcttctt tgaacttctc 240

20

attccttggg cctaggaacc ctcatcaccc tcateccaac gtcaaccag atcttctctt 300

ccataaacag cactccctca ggcccctgcc tgacacaggc atagactgtc atgttgatt 360

cacagacagg ctgtgctaga ggaaacctct ggggctcacc aggggccgtg ggatgggctt 420

25

ctggggcttc ttggagccca acttctcat ggc 453

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tttagcggc accccaacaa caccaggccc tacttttcc aaggncgggg aagcccatgg 180  
45 gtcttgggna acgggcaatg cgggcttgca acgggnggaa naaaaacagn cccaaaagaa 240

tg 242

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 tctcagctca ctgcaacctc cacctctcag gagaattgct gaacctggga ggcggaggtt 120  
 15 gcaggagct gagattgcgc cactgccctc catcctgggc gacagagcaa gaacctgtct 180

c 181

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cgggaaggcc nttggggaaa aaaccaangg ncaaaccccc ccaaccacnc ggcccccccc 120

15

aaggggggtg gggaagagcc aaatttcttt gggaaanaac gcccccttgg ggaaaanaag 180

gccaaccacc tttaacanc cccaangcg nggaagccat ttcttg 227

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30

ggaagaattg tatgtgggag ttttaatgg tctcattca ttggctataa ctcaagtaca 180

aggagaaata taactgcaga ggagcttga aaatttagtt cagctgaggg taaaggaaga 240

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 40 ttgaggcgaa aggactcgcg gatttgacgc ttgatgcggt tgcgctcgac ggcgagcttg 180  
 acgctctttt tgccgatcac caaacctagg cggggatgat caagctgggt atcgcgcgct 240  
 agcagcagga cacttttgcc cgggagcttt accgcttggg gagtcgaaga ctgccttgna 300  
 45 ttgccgggga gtcagcagtc gcttttccc ggncgaagcc tcgaactcac cancctgtct 360

ggattaatta gacagcaaga cgcttgcggc ccctttggcg cgaacgaacn ncgaaaagga 420

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gccaaacccc cc 492

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acgagccggg ctggagcggt gggaaaagca aatgtaggca taagtaacga caatgcgggc 120

45 gagaaccccg cacaccgaaa ggctaaggat tcctccgcta tgtcaatcaa cggagggtta 180

gtcgggtact aaggcgtag cgaaggcgaa gcgccgatgt gaagggggtt aatattcctc 240

cacttgccat gcgtgtgaat ccatgacgga gacgaagccg ggggtgcgtc ctgacggaag 300

5 tgggcgccag caggggcggc ctccgggcca aaccgaacct caggtcanac ttccaagaaa 360

agtgggtgaa acgccagcgc atggcaaccc gtaccgcaaa ccgacacagg tagccggggg 420

anaacatcct aaggngctcg agagtacttt ctagagcggc cgcgggcccc atcgantttt 480

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 gctggaaggc ttgnagggca gaaaagggat cgcctttgg gaggaacca ggtaaggtt 120  
  
 aagaaggaac ccacctngg ggccaaacaa aaacttaaaa acccccccat ttentncccc 180  
 20 ccaaaaaaaaa aatttttaaa aaaaattttt ngcccccggg ggcattgggg g 231  
  
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<223> n is a, c, g, or t

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attcggcacg agggattaca gtcgtgagcc actgcacctg gctgcaatt 109

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 cctgtgaaac ccataaacag tgggaaatgg tgc 153  
  
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tgtcctgaag gacaagccgn ttcgttgaa nctgtgaaat ac 102

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30 ggtgctcctg cgtttggact gtgcaggcct ctctatgct gatgcgtctc cccactcctg 180

agctaatttc tgctctgctc cttctgtgac atgtggcagc gtgggaaata gccactgtcc 240

35 cctgtccctg ctgttctctg tgcacccag caccaggcca ctctgggagc cagggcagat 300

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5 actagatttt actgtagatg gtagataaaa gtccagtga aagcaaagat gtgtaatgtt 180

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25 ancancactg accctgccga cgccagangc cgcanatccg gagantncat gngacnatat 420

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5 ccaaccaaac caaaccaaac caaacagac cagaccagac cagaccagac caaaccaaac 540

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15 ngacgcgccg tacaggntna attatggan cttacatggn aaaggggcan ctcaatgtcc 120

cacag 125

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atgagatgaa atgttgaaaa gaaaggagga aatgatgagg tgagatgaaa tgatgagatg 120

35  
 aatgaatct gagatgaaat gagatgaaaa ntgatacgaa aatgatata aaaaatatga 180

cctgagatga aatgagatga aaaatgatac gaaaaatgat ataaaaata tgacatgaaa 240

40 tgaaatgaga tgatatgaaa tgacataatg aatgatgaa ttgatgatat tgaaatgaaa 300

ttgaaagatg agatgaaatg atgagatgaa atgaaatgtt gaaatgatga agagatgtga 360

catgaaatga gctgaaatga gatgaaatga aatgagatta aatgatgaga tgaaaaatga 420

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 <223> n is a, c, g, or t

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 gaaatgagat gaaataaaaat aatgaaatga tgaaataatg aatgaaaat gagatggaaa 180  
 30 tgatgagatg agaagaaatg atgagatgaa atgatgaaat gatgagatga ganaaaatga 240  
 gatgaaatga tgagatgaga tgaaatatga tgagttgaaa tgacataatg aatgaaatga 300  
 35 tgaaatggaa taatgaaatg gaaatgatga gctgagatgc aatgagttga aatgagatga 360  
 aatgatgaaa tgatgagatg aatgatgaa atgaaataat gaaatgagat gaaataaaaat 420  
 aatgaaatga tgaaataatg aatgaaaat gaaatggaaa tgatgagatg agaagaaatg 480  
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<400> 74

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tgaaatgatg agatgaaatg atgagatgag atgtgatgaa atgatgatat gaaatgatga 120

cataaaatga gatgaaatga gatgtaatga tggaatgaga tgagatgaaa tgagatgaaa 180

20 tgatagatga gataaaatga tgatatgaaa tgatgagatg aatgatgaga tgatgagatg 240

aatgatgaaa tgaaatgatg agatgagatg atgaaatgaa atggtgagat gaaatgatg 299

25

<210> 75

<211> 155

<212> DNA

<213> Human

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<400> 75

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taaaatgatg aaatgatgag gtgatgagat gaaatgatga gatgaaatga tgagatgaga 120

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40 <211> 367

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<223> n is a, c, g, or t

<400> 76

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ctacttnaga ngaantcctc gcaaaatcct tgaatcacgc cttcagtgcg gtgatatac 120

cgccatgaaa ttctgctcg attagcttac gttgtttgga tagaggccaa acaaggctgt 180

45 tatcggtagc aggaatggat gttcgatttc gtagaatacg cctgagagac ggcgaatact 240

ctcacgagag gcagcaggcg cgtaaattac ccaattacaa caagtagagg tagcgaagga 300

aaatatgagg ggtggcaagg tttgcctgt tacattctca aatggaagca aattagatat 360

5

gtcattg 367

<210> 77

10 <211> 257

<212> DNA

<213> Human

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<223> n is a, c, g, or t

25 <400> 77

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atagaaatca ttatttctgt gggatggata attgggcaa attgtaaaat attttaacta 120

30 tcagtgttg gggtttattt taaaagaat aggggtgccac cagatgttct ttagtggagg 180

agaaatgagg ccagagtgc tgcctagaaa attaagttgg taaattaatc actttttct 240

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35

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 30 tattaccaa atattggac cattantaaa gantagggcc aaccnaatt ttcttgaaa 180  
 ttccgttaa atagccgtta aatgtttta cccatttcat attggatacc ttaaattata 240  
 35 ataatggatt ttattgttaa attgtgtgtg tgtggtgtgt atgccctgtc ttcttcctc 300  
 taccattatt gtcactttat gtttgaacc ccctttaccc ttcttaaag gaaaaaagg 360  
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35 ccctgatgtt caagtattta agaccctatg cnaatatttt ttaccttttc taataaacca 120

tgtttggt 128

40 <210> 80  
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45 <220>



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       <223> n is a, c, g, or t

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<400> 80

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ggccaggcct tccttttaa aaaaaatnac cgtttttngg gggangnaac ctttaaagg 120  
ggaaaaanaa tcctttttaa anggaantcc aagggaagga ncctgnncaa nacttcccn 180  
30 ccaataaaaa aaacnntttt ggaaangggg aaa 213

<210> 81

35 <211> 443  
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<223> n is a, c, g, or t

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<223> n is a, c, g, or t

<400> 81

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tgatgaaatg agatgagatg agaagaaatg acttgatgag atgagataaa atgatgaaat 120

gaaatgaagt gaaatgaaat tgaaatgaga tgagatgaaa tgagataaaa tgatgagatg 180

15 aaatgagaag aaatgagatg aaatgatgaa atgatgagat gagatgaaaa atgatgggat 240

gagaaatgag atgaaatgat gggatgaaat gaaatgaaat aatgaaataa tgaaatgaaa 300

20 tgaattgata atattgaagt gaaattgaaa gatgagattg gatgaaatga tgagatgaaa 360

tgaaatgttg aaatgaaatg aagagatgta acatgaaatg agctgaaatg atgagatgaa 420

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<210> 82

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 15 <223> n is a, c, g, or t  
  
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 20 <223> n is a, c, g, or t  
  
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 25 gacctctgaa tgtattantg anncaagtga tagccaagat atttgaaga aaaatagata 120  
 ntagggacct gctctataag cccatcataa ttattatga agttataaca agtaaacag 180  
 taaggtattt ggcattggaat agagaaccca gaaacagacc caatgcatgg gtacaggata 240  
 30 taacacaggg aatgagggga caatatatgg ttctgggata attatttata tggggaaaat 300  
 aaagaaattg gatccctacc tcacacatac aaaaaaaatc ataattgaat taaaaacttg 360  
 35 catgtgaaag gaaagacttt aaaacattta gaaaaagtat tggaggctat gatcttgggg 420  
 taggaaagca ttctttttt tt 442  
  
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15 aggaaggaag gaagg 135

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20 <212> DNA  
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gagttgcctt ctgtaagtgc ccctactatc aaggtttcat ggaaaatcta ggcaaggcag 120  
  
aacttctca gaaggacaag agacaaagaa gtggggggagg ccctcctatc catagctgag 180  
35 agggtttatt ctttgtggtt ctgctgtcag agcctttgga tgtctgatct gagatggagc 240  
  
aaccacagct agacagaact ttgtagattt tggggggggtt aaaaggcctc aagcaaattc 300  
  
40 taaaactttc ttgaacccc ctggcatagg ctgagtttcc ctgact 346

<210> 85  
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45 <212> DNA  
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<400> 85

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5 gaaaagaaaa tggtttttt tgccgaaatc aaccgggtaa 100

<210> 86

<211> 201

10 <212> DNA

<213> Human

<400> 86

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15 gaaaagagga agaaacgctt ttaggaggtt aaggattaaa gtaaaaatta ttttgacata 120

attaccttt tttgtacca ctcttaaagg ccaggaacat atttgagaa gcctagtgt 180

20 atgtaacagt gtggggtttc a 201

<210> 87

<211> 531

25 <212> DNA

<213> Human

<400> 87

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tcttttacc cggcactcgg gtccaccctc gcggcaccag aggtattctc cggcgagtcg 180

35 ttaaccatcg caatgccga ccgagtttaa ggaccactcc ccaccttct cattagtaa 240

ggagaacgct actttacccc atagacggag aaatcgctac tcaactacca ggcgcgcgcc 300

gtcgagtccc tcttctctc tttatgcatt tagagcgctt tcgtaagagt tttccctaga 360

40 ttcttctaag cgtagcgcgt ctactccaat gtttcgtta atccagccc aactaacgcc 420

gcggaggagt cgatccgtct actcctatcc cgtcggctcg gatttactac aggagctaag 480

45 aaaacaaaa gtaccagccc taaaggaaag tcaaaggacg cccgtaaaaa a 531

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 5 <213> Human

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10 cattcgggtcc agtgcctcgc cctattagcc cttaagccca ccggtttctaa aactcccaga 120

acagccaaac cggtcgcccc aaggcctccg tcgttttata atatattccg tttagctata 180

15 aggaacgaac ccccttcat taccacggtc ccgcgtccgc ctcttctcc attcgcaaca 240

gttctattcc tttagcctc ccgtacctgc ttccagaaca tcgcaccgcc atagtcgaaa 300

gatagcaaag attaccagc ttctattcct cgccccagag ccgagtaaatt cgaagtttat 360

20 agaggcggaa tccaaccatt caagagttat aacaagttat cggcactcgg gggatcagaa 420

tataaactta atgtccctt tattctcccg gacgccctt ttaaccatt ctctctatct 480

25 ttgctaaca agccattgac ggcgctttgc cgcgcgggcc catctcgcgt 530

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 aattaaggna aggnntaaaa aatttaacca anggggggtt taaagggnnt tttttttta 180  
  
 aaaaaaagg ttaaancccc cccctttttt ttgggttggg gtgggaaaat ttgggaanc 240  
 45 cttaaccccc gggtttttgg gtttttttgg ccaaaacccc ccggaaaaaa attaaaaaaa 300



ggaccggttt ccattttaat gggatttggg aa

332

5 <210> 90  
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<212> DNA  
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atgaaatgag gtgaaatgaa attagatgaa acgtaatgag atgaaatgac ataatgaaat 420  
gaaaaaatga aatgaaataa tgaaatgagg tgaaattaa tgagatgatg aaattaaatg 480  
5 atgaaatgaa ataatgaaat ggaaatgaaa tggaaatgat gagatgaatg atgagatgaa 540  
atgatgagat gagatgtatt gatgagagga aatgatgaga tgtaatgaaa tgagatgaaa 600  
tgaatgagat gaaatggaat antggaangg aaattgattg gngatttgag atgaaatgag 660  
10 ntaaatgnga tgaattaatg atgagatgaa atgntgaatg ccggggtggn tgagatgaat 720  
tgagttgaac cctgngatga atgaagattg nntgaatggt ggntgaatgt tgaatggntg 780  
15 gntggnanaa tgcctgtngg 800

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<211> 334  
20 <212> DNA  
<213> Human

<400> 97  
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gaaatgaaat gatgaaatga atagatgtga catgaaatga gctgaaatga tgagatcaaa 180  
30 tgaaatgaaa tgagattaa tgatgagatg aaaactgatg aaaacttaaa tgatgaaata 240  
atgaaatgaa aatgaaatgg aaatgatgag atgagaagaa atgatgagat gagatgagat 300  
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35

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40 <213> Human

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<223> n is a, c, g, or t

<400> 98

ttcaggccgt ctgctntac atatactatc gagaatgggtg ctgtgcactc ataacaccgt 60

5 tgcttggtag acgcttttga acccttcagc gctgaaagta 100

<210> 99

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10 <212> DNA

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<223> n is a, c, g, or t

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<223> n is a, c, g, or t

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gaaatgaaat gatgagatga aatgaggtga aatgaaatta gatgaaacgt aatgagatga 180

30 aatgacctaa tgaaatgaaa aatgaaatg aaataatgaa atgaggtgaa attaatgag 240

atgatgaaat taaatgatga aatgaaataa tgaaatggaa atgaaatgga aatgatgaga 300

35 tgaatgatga gatgaaatga tgagatgaga tctaataatg agaggagatg atgagatgaa 360

ntgagatgaa aagagatgaa atgagatgaa accgaaatga tgagatgaaa tgaggtgaaa 420

tgaaattaga tgaaacgtaa tgagatgaaa tgacataatg aaatgaaaaa atgaaatgaa 480

40 ataatgaaat gaggtgaaat 500

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ctcagggggt cttttgttct ctacgcctaa aaacttaatc tgtttggaac aattccnttt 180

5 cctctctgta gaaattgacc tggccatggc tccgtggaat gatacgggtg ctattatccc 240

tgaacactgt aaaaatgaac ttgaaacag ttgggtagga cccaacaga aaatgatgta 300

tggcttgga atagtttagc tgaacattat gctttaatat ttactggcc attgcagcac 360

10 aggtttagaa atttatgttc ggcttttta agtttta 397

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15 <211> 132

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<213> Human

20 <220>

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<223> n is a, c, g, or t

25 <400> 101

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attaattgta ctactttcaa aagaattaat tgaagaaaga gagatacagg gtatctaggc 120

30 ngaggaagac cc 132

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35 <212> DNA

<213> Human

<400> 102

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40 ggcacttaatt ttataattg atatatataa taaaaaatc aatgcagata ttgatataat 120

aaaaatagat aatggtaatc caagcacgat ggtagccatc actctaattg ctttgggggtt 180

45 aacctataac ttattaagta aagtgccaga atgggtcttt gacagtatta aaattaaaga 240



aaacag

246

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5 <211> 18

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<220>

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18

20

<210> 104

<211> 18

<212> DNA

25 <213> Artificial Sequence

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<223> reverse primer of exons 1 and 2 of insulin gene used for quantitative RT-PCR analysis

30

<220>

<221> primer\_bind

<222> (1)..(18)

35

<400> 104

cccacctgca ggctctct

18

40 <210> 105

<211> 24

<212> DNA

<213> Artificial Sequence

45 <220>

<223> forward primer of  $\beta$ MyHC gene used for quantitative RT-PCR

analysis

<220>

5 <221> primer\_bind

<222> (1)..(24)

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24

10

<210> 106

<211> 24

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<223> reverse primer of  $\beta$ MyHC gene used for quantitative RT-PCR analysis

20

<220>

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25

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24

30 <210> 107

<211> 20

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35 <220>

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20

45

<210> 108  
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35 <210> 110  
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40 <220>  
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19

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<210> 111  
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10

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15

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21

<210> 112  
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25 <212> DNA  
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<220>  
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30

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35

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22